

What is claimed is:

1. A substrate processing apparatus, comprising:

a reaction chamber for simultaneously processing a  
5 plurality of process substrates;

a boat for loading the process substrates into the  
reaction chamber; and

a stocker for storing a multiple number of dummy  
substrates, at least a portion of the dummy substrates being  
10 loaded into the reaction chamber together with the process  
substrates through the use of the boat,

wherein a dummy substrate cleaning process is carried  
out by loading the dummy substrates to be cleaned into the  
reaction chamber through the use of the boat and introducing  
15 a cleaning gas into the reaction chamber.

2. The apparatus as recited in claim 1, wherein there is a  
limit in the number of time of using each dummy substrate  
and the dummy substrate cleaning process is carried out for  
20 the dummy substrates used up to the limit.

3. The apparatus as recited in claim 1, wherein all the  
dummy substrates stored in the stocker are simultaneously  
subject to the dummy substrate cleaning process.

4. The apparatus as recited in claim 1, wherein the process

substrates and the dummy substrates are silicon wafers and quartz wafers, respectively.

5     5. The apparatus as recited in claim 1, wherein the process substrates and the dummy substrates are silicon wafers and alumina coated silicon wafers on top and bottom surfaces thereof, respectively.

10     6. The apparatus as recited in claim 1, wherein the boat is simultaneously cleaned during the dummy substrate cleaning process.

15     7. The apparatus as recited in claim 6, wherein the reaction chamber is simultaneously cleaned during the dummy substrate cleaning process.

20     8. The apparatus as recited in claim 1, wherein the boat is a quartz boat for accommodating a predetermined number of substrates.

25     9. The apparatus as recited in claim 8, wherein the ratio of the number of said portion of the dummy substrates to that of the process substrates is fixed and the capacity of the stocker is n times the number of said portion of the dummy substrates, n being a positive integer.

10. A substrate processing method for use in the apparatus of claim 1, comprising the step of cleaning in the reaction chamber the dummy substrates stored in the stocker.

5 11. The substrate processing method of claim 10, wherein there is a limit in the number of time of using each dummy substrate and the cleaning step is carried out for the dummy substrates used up to the limit.

10 12. The substrate processing method of claim 10, wherein all the dummy substrates stored in the stocker are simultaneously subject to the cleaning step.